Ring Having a Setting of Semi-precious Stones

Field

This invention relates to a jewelry item, and more particularly to a jewelry item with a diamond setting, where the setting consists of continuous bands of semi-precious stone.

Background

Rings are popular items of jewelry which have been worn by women and men for centuries. Generally, rings are made out of a solid metal material. The most common form of a ring constitutes a simple metallic band, often of a gold or silver alloy, fitted for the wearer's finger.

Rings containing elaborate precious or semi-precious gems are worn by people interested in donning jewelry. A diamond is one of the most popular gems and is often placed on a ring.

The beauty of diamond rings is slightly hindered by the prominent view of the metal band that supports the diamond. While every diamond is unique, metal bands, even gold bands, have a commonplace appearance. Accordingly, there is a need to provide a band for a diamond ring that has an appearance that, as compared to a metal band, enhances the uniqueness and elegance of a diamond ring.

Summary

The present invention discloses a ring comprising a plurality first and second annular semi-precious stones, where the stones form a setting for center stones. The semi-precious stones are either transparent, translucent or opaque, and form a setting for precious stones.

Brief Description of the Figures

In order to satisfy the recited objective, a particular description of the invention will be rendered by reference to specific embodiments thereof that are illustrated in the appended drawings. Understanding that the drawings depict only typical embodiments of the invention and are not therefore to be considered to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 is a perspective view of a ring according to the invention;

Figure 2 is a top view of a ring according to the invention;

Figure 3 is a frontal view of the invention, taken at cross-section 3-3 in Figure 2;

Figure 4 is a perspective view of the invention, taken at cross-section 3-3 in Figure 2;

Figure 5 is a perspective view of the invention, disclosing the support brackets and the diamonds;

Figure 6 is a frontal view of a center annular member according to the invention;

Figure 7 is a side view of the center annular member;
Figure 8 is a perspective view of the center annular member;
Figure 9 is another perspective view of the invention, taken at cross-section 3-3 in Figure 2; and
Figure 10 is another perspective view of the invention, taken at cross-section 3-3 in Figure 2, with the brace encasing the stones.

Description of the Preferred Embodiments

Turning to Figures 1 and 2, a ring 1 is disclosed. The ring 1 includes first and second annular shaped semi-precious stones 3, 4 which are described below and, according to the invention, are used for setting a series of center diamonds 2. Turning to Figure 3, the semi-precious stones 3, 4 are partially supported by members 5-7, which include brackets 5, 6 and brace 7, which will now be addressed in detail.

The brace 7, which supports the semi-precious stones 3, and 4, is a piece of metal shown in Figure 3. Brace 7 has top surface 7a, bottom surface 7d, and side surfaces 7b and 7c. Brace has a generally cylindrical shape that is non-conical and forms the inner surface of the ring. The inner diameter of brace, surface 7d, is dimensioned to fit the finger of a person and may be a size or made in sizes to fit any person's finger.

The brackets 5 and 6, are shown in detail in Figure 5, while bracket 5 is disclosed in further detail in Figures

6-8. The brackets also support the semi-precious stones 3, and 4, and are mirror images of each other.

Brackets 5, and 6 have co-linear edges 5a, and 6a which abut each other at the top surface of brace 7a substantially at the center of the surface 7a. The brackets also have surfaces 5b, and 6b, extending from edges 5a and 6a, towards opposite edges of bracket 7b, and 7c, respectively. The surfaces 5b, and 6b form a support for brackets 5, 6 on brace 7.

Extending from faces 5b and 6b, and projecting away from face 7a, are surfaces 5c, and 6c. Surfaces 5c, and 6c each taper outwardly, in opposed directions, towards edges 7b and 7c, respectively. Surfaces 5c, and 6c terminate at edges 5d, and 6d. The surfaces 5c, and 6c are capable of being biased inwardly by stones 3, and 4, so that brackets 5, and 6 can be biased against diamonds 2.

On the other side, projecting away from edges 5a, and 6a, and face 7a, are co-planar faces 5e, and 6e. Faces 5e, and 6e extend in a substantially linear direction from the center of ring 1. The faces 5e, and 6e terminate at co-linear edges 5f, and 6f, respectively. Face 5e supports bracket 6 and prevents bracket 6 from being displaced towards brace edge 7b. On the other side, face 6e supports bracket 5 and prevents bracket 5 from being displaced towards brace edge 7c.

Extending from edges 5f, and 6f, are faces 5g, and 6g, where each tapers outwardly, in opposing directions, and terminates at edges 5h, and 6h, respectively. Faces 5g,

and 6g, as illustrated in Figures 5, are capable of receiving and seating a diamond 2, from the culet to the crown.

Projecting from edges 5d, and 6d are inwardly tapered surfaces 5i, and 6i. Faces 5i, and 6i terminate at edges 5m, and 6m, respectively. Faces 5i, and 6i are capable of being biased downwardly by stones 3, and 4 so that brackets 5, and 6 are restrained against brace surface 7a.

On the other hand, projecting from edges 5h, and 6h are inwardly tapered surfaces 5j, and 6j. Surfaces 5j, and 6j terminate at edges 5L, and 6L. Surfaces 5j, and 6j form a lip for gripping and setting the crown of diamonds 2. Furthermore, faces 5k and 6k connect edges 5L and 5m, and edges 6L and 6m, and have a thickness that assures structural rigidity of brackets 5 and 6.

The height of brackets 5, and 6, from edge 5a, and 6a, to edge 5L, and 6L, may be about seventy five percent of the height of stones 3, and 4. The height of brackets 5, and 6 sets the table of diamonds 2 below the height of stones 3, and 4.

The width of the brackets 5, and 6, tapers from about seventy five percent of the width of each stone 3, and 4 to about twenty five percent of the width of the stones, between edges 5d and 6d, to the outside edge of surfaces 5b, and 6b. The width of brackets 5, and 6 makes the brackets capable of setting the crown of diamonds 2. The width also makes the brackets capable of abutting portions

of stones 3, and 4, as described below, for setting stones 3, and 4 and brackets 5, and 6 within ring 1.

As described, brackets 5, and 6, when placed against each other, are somewhat similar to a channel setting. However, a shown in Figures 5-8, in the preferred embodiment, each bracket 5, 6 contains a series of baskets 5n and 6n. Baskets 5n, and 6n have a rounded contour that extends from the culet to the girdle of each diamond, but not over the crown of the diamond. Each basket 5n, and 6n engages approximately half of the surface area of the pavilion of each diamond 2.

As a result of the basket contours, the embodiment illustrated in Figure 3 depicts a "Y" cross section that is formed around the entirety of the pavilion, girdle and crown of each diamond 2. The structure of baskets 5n, and 6n eliminates the normal voids associated with the channel setting, to provide a stronger setting, as shown in Figures 2 and 3.

Brackets 5, 6 are fabricated from metal, having a suitable strength, malleability and thickness for the application. The brackets are stamped or molded from metal.

Turning now to figure 4, the first semi-precious stone 3, used for setting diamonds 2, has an edge 3a that sits upon and is supported by top surface of brace 7a. Projecting away from brace 7a, are elongated linear faces 3b, 3c. Face 3b projects towards the edge of brace 7b and face 3c projects toward the opposing edge of brace 7c. The angle between faces 3a, and 3c is approximately between about 90

degrees and 120 degrees, and the angle between each face 3c, 3b and brace 7a is acute.

Face 3b of stone 3 extends past the side edge of brace 7b and connects with rounded edge 3d. Edge 3d connects with elongated face 3e, where the angle between faces 3b, 3e is acute. Face 3e has a curvature, the purpose of which is discussed below. Face 3e extends back towards edge 7c of brace 7, and over the top surface of bracket 5i. At this point, face 3e connects with rounded edge 3f, which turns to connect with bracket edge 5L at edge 3g. The projection of edge 3f over bracket surface 5i forms an invisible setting that helps to hide the surface 5i from view.

After connecting with bracket 5, stone 3 has a contour, defined by face 3h and edge 3i that is capable of receiving face 5i of bracket 5. The stone 3 also has face 3j and edge 3k that are capable of receiving a portion of face 5c of bracket 5. Faces 3c and 3j are joined by linear face 3L.

The first stone 3 is either transparent or translucent, and the illustrated angles and dimensions enhance the refraction of ambient light. The angles of the vertices provide for optimum refraction of ambient light in towards diamonds 2, providing a more brilliant illumination of diamonds 2. For example, ambient light directed toward the center of ring 1 will enter the top surface 3e of stone 3. Once entering the stone 3, the curvature of face 3e will refract the light towards face 3c. After reaching face 3c, the angle of incident will equal the angle of reflection, so that the light will reflect towards face 3b. Once the

light has reached face 3b, the light will be reflected back towards face 3e. Upon leaving stone 3, the curvature of face 3e transmits the light out of the stone. With both stones 3, and 4 being transparent or translucent, and having cross sectional cuts that are mirror images of each other, the combined refraction of light will greatly illuminate on each side of each diamond.

Transparent and translucent stones are generally known in the art, having a variety of colors, reflective characteristics and surface characteristics. Examples of semi-precious stones that are transparent or translucent include amber, carnelian, amethyst, citrine, quartz, and peridot. Each known transparent and translucent stone known in the art, that is capable of being formed into an annular ring, falls within the scope of the invention.

Turning to Figure 9, the second stone 4 which is opaque is illustrated, according to the invention. The second stone 4 has a first edge 4a which rests on and is supported by brace 7a. The stone 4 has first elongated side 4b that hyperbolically tapers away from the top surface of brace 7a towards a second edge of brace 7c. The side 4b extends past the edge of brace 7c by the same distance that round edge 3d extends past brace edge 7b. After the full extension, side 4b turns back toward the second bracket 6 to terminate at rounded edge 4c. Edge 4c extends past and over bracket edge 6L by the same distance that rounded edge 3f extends past and over bracket edge 5L. At this point, rounded edge 4c turns downward at ninety degrees to terminate on bracket edge 6L at edge 4d.

After intersecting bracket edge 6L, stone 4 has surfaces and edges that are capable of receiving bracket faces 6i, 6c and bracket edge 6d. More specifically, stone 4 has face 4e that terminates at edge 4f and is capable of abutting bracket face 6i. Stone 4 also has face 4g that terminates at edge 4h and is capable of abutting a portion of bracket face 6c. The edge of stone 4h intersects with linear face 4i, which extends toward the center of ring 1 to intersect edge 4a on surface 7a of brace 7.

The cut of stone 4 is appropriate for reflecting light from an opaque stone 4. However, it is considered that opaque stone 4 can have any cut so long as the base of stone 4 is supported by brace 7 to maintain the structural integrity of ring 1, discussed below.

Opaque stones are generally known in the art and have a variety of colors and surface characteristics. Examples of opaque semi-precious stones includes dalmation, jasper, garnet, hematite, howlite, jade, jasper, lapis, mohagany, mother of pearl, onyx, pink and red coral, poppy jasper, rhodonite, snowflake, tiger eye, tree agate and turquoise. Each known opaque stone that is capable of being formed into an annular ring falls within the scope of the invention.

Stones 3 and 4, as illustrated in Figure 3, are different in kind. For example, stone 3 is transparent or translucent while stone 4 is opaque. This difference is for illustration purposes, and represents an embodiment of the invention. Both stones may be transparent or opaque,

or one maybe opaque and the other transparent, each consisting of differing semi-precious stones.

In use, the diamonds are restrained in the following manner. As seen in Figure 9 and 10, the dashed and solid lines are edge 7b, which is flared outwardly, is bent upwardly and around stone 3 to encase surface 3b, edge 3d, and a portion of surface 3e. The amount of flare over surface 3e is only that required to securely grip stone 3 and press stone 3 towards stone 4. This bias presses the edge of stone 3i against the edge of bracket 5d and the faces of stone 3h, and 3j against bracket faces 5i, and 5c.

On the other side, the edge 7c of brace 7 is flared outwardly, to encase the bottom portion of hyperbolic surface 4b and a portion of surface 4b above the hyperbolic peak. The amount of flare over the hyperbolic peak on surface 4b is that required to securely grip stone 4 and press stone 4 towards stone 3. This bias presses the edge of stone 4f against bracket edge 6d, and the faces of stone 4e, and 4g against bracket faces 6i, and 6c.

The bias on the face of brackets 5 and 6 presses the face of bracket 5e against the face of bracket 6e, and positions bracket faces 5g, and 6g, and baskets 5n, and 6n, to create a contoured seat for each diamond 2. The biases on brackets 5 and 6 also press bracket surfaces 5j, and 6j over the crown of each diamond 2, so that each diamond 2 is set in the ring 1.

It is to be appreciated that the width of brace 7, along surfaces 7a, and 7d, is dimensioned to make brace capable

of being flared over surfaces 3e and 4b. Further, the thickness of brace 7, along surfaces 7b, and 7c, is dimensioned to ensure that ring 1 is structurally secure in light of the required flaring and biasing forces needed to restrain diamonds 2.

Turning now to the series of diamonds 2, the diamonds 2 are set between stones 3, 4, as shown in figures 1 and 2. Further, each diamond in the series 2 touches the girdle of the adjacent diamond and has the same cut and quality as each other diamond.

In an alternative embodiment, the size or quality of each diamond 2 can change at regular intervals, in the annular direction about ring 1. For example, at specific locations, a diamond may be mounted that is larger than the other diamonds, and larger than the viewable surface area of stones 3, 4. Yet alternatively, at specific locations, a diamond might have a different color than the other diamonds, or a blank space may be substituted at periodic locations in the annular direction. Yet alternatively, a combination of the disclosed embodiments might exist.

Accordingly, there has been provided a gemstone setting that visually consists of semi-precious stones rather than a metal band. The invention, as disclosed, enhances the uniqueness and attractiveness of a ring.

The present invention may be embodied in other specific forms without the risk of departure from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not

as restrictive. The scope of the invention is, therefore, indicated by the appended claims and their combination in whole or in part rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.